

# Ohio Agricultural Experiment Station

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## MUSHROOMS—EDIBLE AND POISONOUS

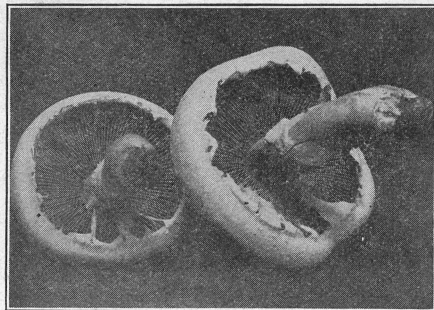
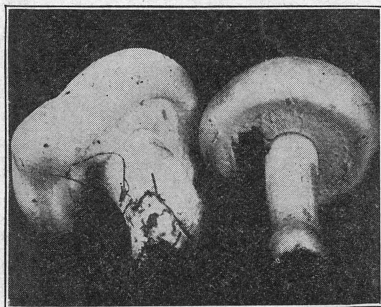


Fig. 1. Common Meadow Mushroom  
(*Agaricus campestris*). Edible.

Courtesy of Prof. G. F. Atkinson



## MUSHROOMS — EDIBLE AND POISONOUS

### PUBLICATIONS ON CULTURE OF MUSHROOMS

By D. C. BABCOCK

The names mushroom and toadstool are interchangeable and apply to fleshy umbrella fungi. A few toadstools are extremely poisonous, a considerable number are probably slightly poisonous, most toadstools are not poisonous, and some of these are edible.

To distinguish edible and poisonous mushrooms there is no reliable test. The common silver coin test is unreliable, as both edible and poisonous mushrooms have the same action. Another test is that if the upper skin peels off the mushroom is edible. However, poisonous toadstools do the same. An agreeable flavor when tasting is not to be depended upon as some of the poisonous mushrooms possess a very pleasing taste.

More certain methods of testing fungi are by eating them (Mr. Gibson's physiological test) and by learning through the experience of others. However, in testing out a mushroom by eating, a long drawn out process is involved, as very small bits of the raw toadstool, but none of the juice, are swallowed. This is repeated every twenty-four hours for three or four times, and, if at the end no disagreeable effects are produced, one may be safe in trying a larger quantity. It must be remembered that only a very small amount of the species known as "Deadly Amanita" is required to produce serious poisoning effects. This method is not to be taken up by the novice until he has become acquainted with the common species at least. A better method is by learning from the experience of others and studying the toadstool in question and the various books written on the subject. A few rules should be adhered to.

#### WHAT TO AVOID

1. All mushrooms in the young or "button" stage. At this time it is impossible to determine, except after long experience, some poisonous species from some edible species.
2. Avoid all those with pores on the under side of the cap until sufficient acquaintance teaches the difference between edible and poisonous varieties.
3. Avoid all species which have white spores, a ring, and a volva or bulb-like base together on same specimen. The most poisonous species are in this group which has also gills.



4. Avoid those having a milky juice unless the milk is red.
5. Avoid those having the cap thin in comparison with the gills, especially if they are bright colored, and in which the gills are nearly all of equal length.
6. Avoid all mushrooms which are not strictly fresh, since decay sometimes greatly increases poisonous substances. By following these rules implicitly one may avoid the most poisonous kinds, but the novice should experiment with the greatest caution.

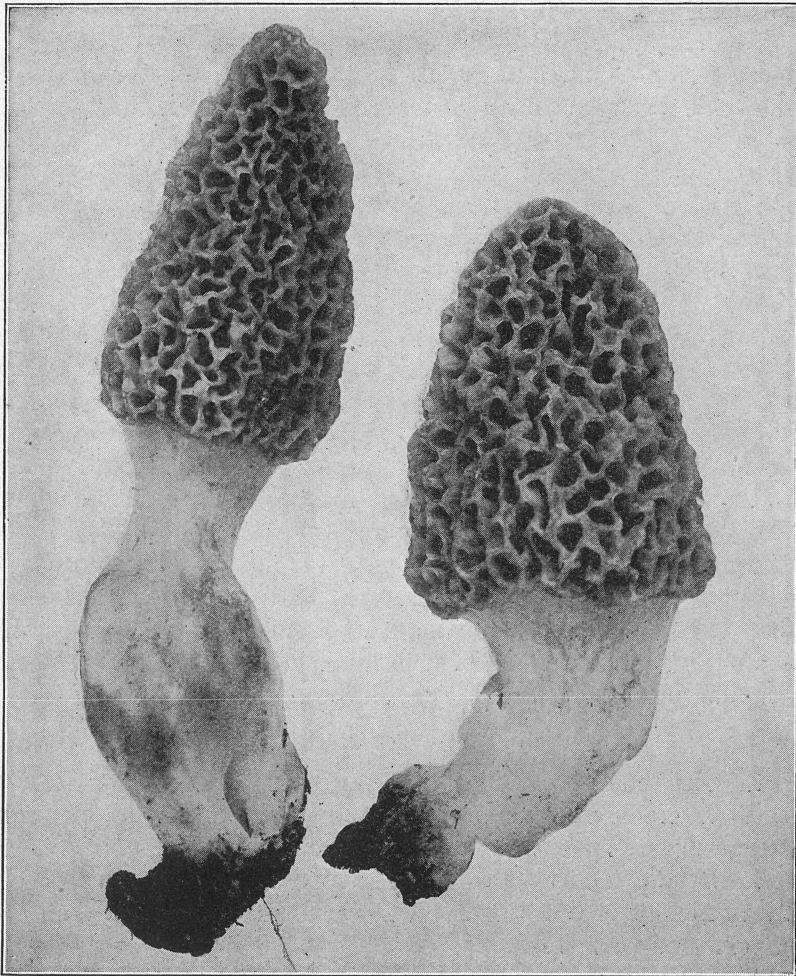


Fig. 2. The Common Morel (*Morchella esculenta*). Edible.



The common sponge-like morel, *Morchella esculenta*, which is found in the spring of the year, and also all puff-balls (while the flesh still remains white) are edible. The common morel grows about three inches high and is generally to be found in old orchards during the months of April and May. There are no poisonous species of morels and often a collector may have a number of species in the same lot. (See Fig. 2.)

The common meadow mushroom, *Agaricus campestris*, which never grows in the dense woods but in the open pastures from August to October, has a white or drab colored stalk and cap. The gills are pinkish to brownish-purple. The stalk is rather short, cylindrical, solid and possesses a ring around the stalk. It is never bulbous at the base, but straight and even. (See Fig. 1.)

#### BOOKS ON MUSHROOM IDENTIFICATION

Atkinson, George F., Mushrooms Edible, Poisonous, etc., 275 pp. 223 figs. Andrus & Church, Ithaca, N. Y., 1901.

Hard, M. E. Mushrooms, Edible and Otherwise. 602 pp. 504 figs. The Ohio Library Co., Columbus, Ohio, 1908.

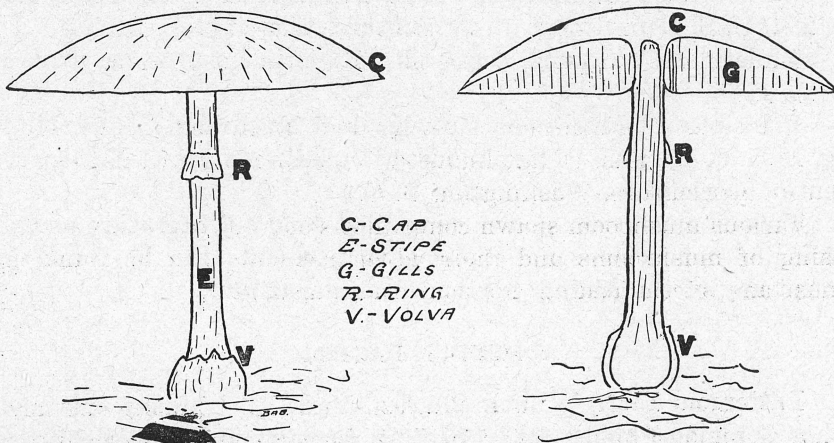


Fig. 3. Diagrammatic drawing, showing principal parts of mushroom.

The following terms are used in identifying mushrooms and a clear definition will be appreciated by the amateur, each point being illustrated.

**Volva**—A membranous sac inclosing the young mushroom of many agaricaceous fungi. It is ruptured by the expanding pileus and remains usually as a cap at the base of the stipe. Fig. 3—V.

**Cap**—The expanded, umbrella-like top of a common mushroom. Fig. 3—C.

**Gills**—Plates radiating from the stem attached to the cap on which the spores are borne. Fig. 3—G.

**Spores**—The reproductive bodies (corresponding to seeds in higher plants) of mushrooms.

**Ring (Annulus)**—Part of the veil or covering adhering to the stem of agarics. Fig. 3—R.

**Spawn**—The popular name for mycelium used in growing mushrooms.

**Stipe**—The stalk which supports the cap. Fig. 3—E.

#### CULTURE OF MUSHROOMS

Mushrooms are grown for the home table and also on a commercial basis. Mushroom culture is not an easy thing to learn and we advise amateurs to enter the business with caution. The Ohio Experiment Station has not published anything concerning mushroom culture. Recommendation is made to the following publications:

Cultivation of Mushrooms, 1904, 24 pp. illus. (Farmers' Bulletin 204, U. S. Department of Agriculture, Washington, D. C.)

Bulletin 227, Cornell University Experiment Station, Ithaca, N. Y., 1905.

Principles of Mushroom Growing and Mushroom Spawn Making, 1905, 60 pp. illus. (Plant Industry Bulletin No. 85, U. S. Department of Agriculture, Washington, D. C.)

Various mushroom spawn companies send out literature on the raising of mushrooms and their advertisements can be found in almost any of the leading horticultural magazines.

#### ADDENDUM PAGE 91

Patterson, Flora W. and Charles, Vera K. Mushrooms and Other Common Fungi. Bul. 175, U. S. Department of Agriculture, pp. 64, 38 plates. 1915.

